moved and a palmar flap brought dorsalward. The pathological diagnosis was metastatic adenocarcinoma to the finger.* Postoperatively the operative site healed slowly, possibly because of exfoliative dermatitis that developed about the hands due to penicillin which had been administered preoperatively.

Even after the pathological diagnosis was made, the dissection and amputation was thought to be sufficient, at least in this case, since the patient already had metastatic lesions in the lungs. When last observed, six months after operation, the patient had no recurrence at the operative site.

SUMMARY

In a review of the literature only one report of a metastatic tumor at the nail-bed was found. The present case is one in which an adenocarcinoma metastatic to the nail-bed of the right ring finger was removed in the belief the lesion was a pyogenic granuloma. The primary lesion was in the rectum. It is probable that metastatic lesions of the hand are occurring more often than has been reported, for the hand is not thought of as a site of metastasis. Inflammation of the nail area that persists despite treatment should be biopsied.

*E. L. Benjamin, M.D., and Delbert R. Dickson, M.D.

317 West Pueblo Street, Santa Barbara.

REFERENCES

1. Bell, J. L., and Mason, M. L.: Metastatic tumors of the hand; report of two cases, Quart. Bull. Northwestern University Medical School, 27:114-116, 1953.

2. Brason, F. W., Eschner, E. G., Sanes, S., and Milkey, G.: Secondary carcinoma of the phalanges, Radiology, 57:864-867, 1951.

3. Greene, M. H.: Metastasis of pulmonary carcinoma to the phalanges of the hand, J. Bone and Joint Surgery, 39A:972-974, July 1957.

4. Kerin, R.: Metastatic tumors of the hands, J. Bone and Joint Surgery, 40A:263-276, April 1958.

5. Lichtenstein, L.: Bone Tumors, p. 283, The C. V. Mosby Co., St. Louis, 1952.

6. Mason, M. L.: Tumors of the hand, Surg. Gynec. and Obst., 64:129-148, 1937.

7. Riba, L. W.: Symposium on urology: Testicular tumors: Chorionepithelioma with generalized and skin metastases, Surg. Clin. North America, 30:151-166, 1950.

Laceration of the Profunda Femoris Artery Complicating Fracture of the Shaft of the Femur

CHARLES E. WORKMAN, M.D., Pasadena, and LYNN O. LITTON, M.D., Kansas City, Kansas

MANY COMPLICATIONS may follow fractures of the shaft of the femur. Vascular injuries are relatively common and the diagnosis of laceration of the femoral artery is usually obvious. An unusual case is here described in which severe hemorrhage from the profunda femoris artery necessitated ligation of the artery. Because this complication may be easily overlooked we were led to review the anatomy of the artery (Figure 1).

"The profunda femoris artery," said Grant,[1] "may arise from the lateral aspect of the femoral artery at the level of the inguinal ligament, in which case two main arteries enter the limb; or it may arise 4 inches below the inguinal ligament, in which case but one artery traverses the femoral triangle; usually (75 per cent of cases, Quain) it takes origin between one and two inches below the ligament. It is only slightly smaller than the continuation of the femoral artery itself, and is therefore no mean vessel."

REPORT OF A CASE

In the present case, the patient, a man 23 years of age, was admitted to the emergency room about two hours after having been involved in an auto accident.

When examined, he was oriented and alert. The pulse rate was 132 and the blood pressure was 160/80 mm. of mercury. Moderate angulation and swelling of both thighs was noted. The left thigh was more swollen than the right. The patient was perspiring and pale and his skin was clammy. He received 1000 cc. of whole blood, 250 cc. of dex-

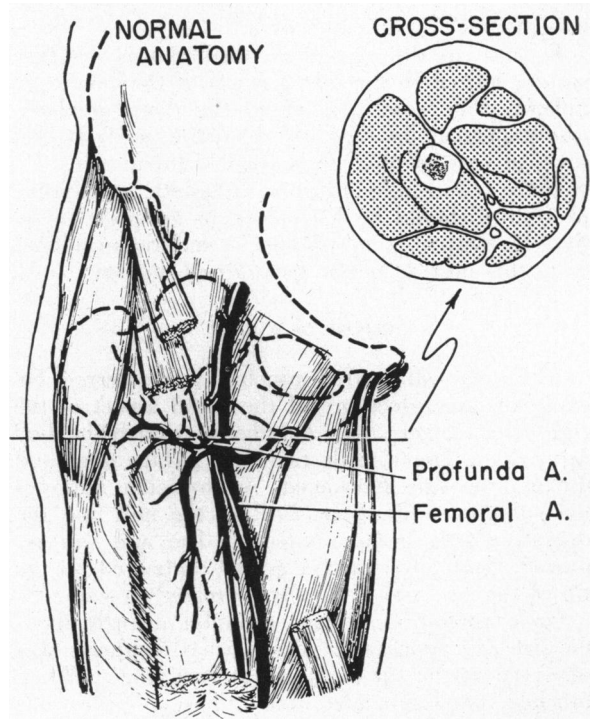

Figure 1.—Anatomic details showing branching of the profunda from the femoral artery.

Submitted January 27, 1959.

Figure 2.—X-ray film showing fractures of left and right femurs in present case.

tran, and 250 cc. of 5 per cent glucose in water intravenously and his condition improved. X-ray examination showed a fracture of the right femur, subtrochanteric and fracture of the left femur approximately at the junction of the upper and middle one-third (Figure 2).

Steinman pins were inserted into the tibial crests and the legs were placed on Boehler frames. Soon after the patient was admitted to the ward the left thigh became much more swollen and he complained of numbness over the lateral calf and dorsum of the foot. The pulse rate was 160 and the blood pressure was 100/50 mm. of mercury. The dorsalis pedis and posterior tibial pulsations remained good. Because of the evidence of massive continuing bleeding into the left thigh the patient was taken to the surgery and exploratory operation on the left thigh was carried out. The profunda femoris artery was found to be completely severed near its origin from the femoral artery (Figure 3). The patient received a total of 4000 cc. of blood on the first hospital day. On the next day he became mentally confused and petechial hemorrhages were noted in the axillary areas. The clinical diagnosis was fat embolism. The general condition of the patient gradually improved over the next several days. X-ray films showed the left femur in satisfactory position. As it was impossible to obtain adequate reduction of the subtrochanteric fracture of the right femur by closed methods, open reduction was performed and the fragments fixed in position with a nail plate combination. When there was clinical evidence of early union the patient was placed in a double hip spica. The fractures of both of the femurs solidly united and there was no impairment of function.

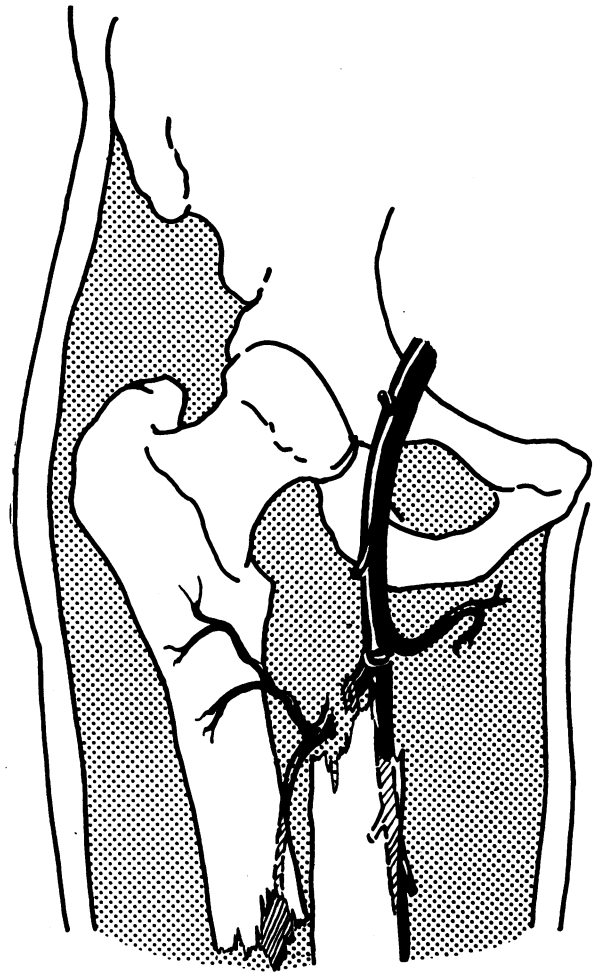

Figure 3.—Drawing showing fracture of the femur with injury to the profunda femoris artery in present case.

This case report emphasized the following factors:

1. Severe hemorrhage may follow injury to the profunda femoris artery.

2. The artery is likely to be injured in fractures of the upper one-third of the femur.

3. The hemorrhage may be so severe that the artery must be ligated.

4. The diagnosis may be made preoperatively on the basis of three cardinal signs: (a) Unusual swelling of the thigh following fractures of the femur or other injuries of the upper thigh; (b) an undiminishing dorsalis pedis and posterior tibial artery pulsation; (c) swelling that progresses after elevation of the extremity.

2627 East Washington, Pasadena (Workman).

REFERENCE

1. Grant, J. C.: A Method of Anatomy, Ed. 4, Page 381, The Williams and Wilkins Co., Baltimore, 1948.